

What is claimed is:

1. A glass composition comprising:

not smaller than 65wt.% and smaller than 74wt.% SiO_2 ;

0-5 wt.% B_2O_3 ;

0.1-2.5 wt.% Al_2O_3 ;

not smaller than 0 wt.% and smaller than 2 wt.% MgO ;

5-15 wt.% CaO ;

0-10 wt.% SrO ;

0-10 wt.% BaO wherein a total amount of MgO , CaO , SrO , and BaO is greater than 10 wt. % and not greater than 15 wt.%;

0-5 wt.% Li_2O ;

10-18 wt.% Na_2O ;

0-5 wt.% K_2O wherein a total amount of Li_2O , Na_2O and K_2O is 10-20 wt.%; and

0-0.40 wt.% TiO_2 .

2. A glass composition as claimed in claim 1, wherein the glass composition comprises:

65-70 wt.% SiO_2 ;

not smaller than 0 wt.% and smaller than 2 wt.% B_2O_3 , and

MgO , CaO , SrO and BaO in a total amount of not smaller than 10 wt.% and smaller than 12 wt.%.

3. A glass composition as claimed in claim 1 or 2, wherein a total iron oxide ($\text{T-Fe}_2\text{O}_3$) expressed as Fe_2O_3 is 0.4-1.9 wt.% and,

the glass composition with a thickness from 1 to 6 mm has a solar energy transmittance of not greater than 60% and ultraviolet transmittance of not greater than 30% defined by ISO.

4. A glass composition as claimed in any one of claims 1 thorough 3, wherein the glass composition comprises 0.4-1 wt.% total ion oxide (T-Fe₂O₃) expressed as Fe₂O₃ and 0.01-0.40 wt.% TiO₂ and has a visible light transmittance of not smaller than 70% measured by the illuminant "A" with a thickness from 1 to 6mm.

5. A glass composition as claimed in any one of claims 1 thorough 4, wherein the glass composition comprises

0.4-0.65 wt.% total ion oxide (T-Fe₂O₃) expressed as Fe₂O₃ wherein a FeO ration expressed as Fe₂O₃ against the total ion oxide (T-Fe₂O₃) is 20-60 wt.%;

not smaller than 0.01wt.% and smaller than 0.20wt.% TiO₂; and
0.1-2.0 wt.% CeO₂, and

wherein the glass composition with a thickness from 3.5 to 5.0 mm has the visible light transmittance of not smaller than 70 %, the solar energy transmittance of not greater than 55% and the ultraviolet transmittance of not greater than 15% defined by ISO when measured by using the illuminant "A".

6. A glass composition as claimed in any one of claims 1 thorough 4, wherein the glass composition comprises:

greater than 0.65wt.% and not greater than 0.90wt.% total ion oxide

(T-Fe₂O₃) expressed as Fe₂O₃;

0.01-0.40wt.% TiO₂; and

greater than 1.4wt.% and not greater than 2.0wt.% CeO₂,

a FeO ration expressed as Fe₂O₃ against the total ion oxide (T-Fe₂O₃) is 20-60 wt.%, and

the glass composition with a thickness from 1.8 to 4.0 mm has the visible light transmittance of not smaller than 70 %, the solar energy transmittance of not greater than 55% and the ultraviolet transmittance of not greater than 15% defined by ISO when measured by using the illuminant "A".

7. A glass composition as claimed in any one of claims 1 thorough 6, wherein the glass composition comprises:

smaller than 0.005 wt.% CoO;

not greater than 0.01 wt.% NiO; and

not greater than 0.001 wt.% Se.

8.. A glass composition as claimed in any one of claims 1 thorough 3, wherein the glass composition comprises:

0.9-1.9 wt.% T-Fe₂O₃;

0.005-0.05 wt.% CoO;

0-0.2 wt.% NiO; and

0-0.005 wt.% Se.

9. A glass composition as claimed in claim 8, wherein the glass composition with a thickness from 1.8 to 5.0mm has the visible light

transmittance of 10-65%, the solar energy transmittance of not greater than 50% and the ultraviolet transmittance of not greater than 15% defined by ISO when measured by using the illuminant "A".

10. A glass composition as claimed in any one of claims 1 thorough 9, wherein the product of the mean linear expansion coefficient in a range of 50—350°C and Young's modulus is 0.71—0.90 MPa/°C.

11. A glass composition as claimed in any one of claims 1 thorough 10, wherein the mean linear expansion coefficient in a range of 50—350°C is $80 \times 10^{-7} - 110 \times 10^{-7}/^{\circ}\text{C}$.

12. A glass composition as claimed in any one of claims 1 thorough 11, wherein the density measured at an ambient temperature is greater than $2.47\text{g}/\text{cm}^3$ and not greater than $2.65\text{ g}/\text{cm}^3$.